DOCUMENT RESUME

ED 266 280 CE 043 556

AUTHOR Knold, John A., Ed.
TITLE Employee Training Needs as Expressed by Employers in Washington State.
INSTITUTION Washington State Commission for Vocational Education, Olympia.
PUB DATE [86]
NOTE 46p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Basic Skills; Disabilities; Dislocated Workers; *Educational Improvement; *Educational Needs; Educational Quality; *Employer Attitudes; Employment Potential; *Job Training; Outcomes of Education; Postsecondary Education; *Program Effectiveness; *Role of Education; School Business Relationship; Secondary Education; State Surveys; Unemployment; *Vocational Education
IDENTIFIERS Washington

ABSTRACT

A study assessed the attitudes of 702 Washington State employers toward vocational education at the secondary and postsecondary levels. The majority of respondents perceived community colleges and vocational-technical institutes, but not public high schools, to be doing a very good job of preparing students for job and careers. Over 90 percent regarded having a strong background in basic skills as very important. The most important competencies for high school and postsecondary vocational school graduates were positive work habits and attitudes. One-third of the employers had used community colleges or public vocational-technical institutes to train employees. Employers believed subject areas needing increased emphasis at secondary and postsecondary levels are math and English. On-the-job training was provided by 94 percent, training for the disabled by 13 percent, and training for displaced or unemployed workers by 12 percent. Almost 60 percent had been involved in a cooperative relationship with an educational institution. The report's recommendations included: integration of basic and employability skills into vocational education; a strong core curriculum of English, mathematics, and science for all secondary students; more school-business cooperation; and greater efforts by business to meet needs of dislocated and handicapped workers. (The survey instrument is appended.) (YLB)

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Washington State Commission for Vocational Education

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EMPLOYEE TRAINING NEEDS AS EXPRESSED BY EMPLOYERS IN WASHINGTON STATE

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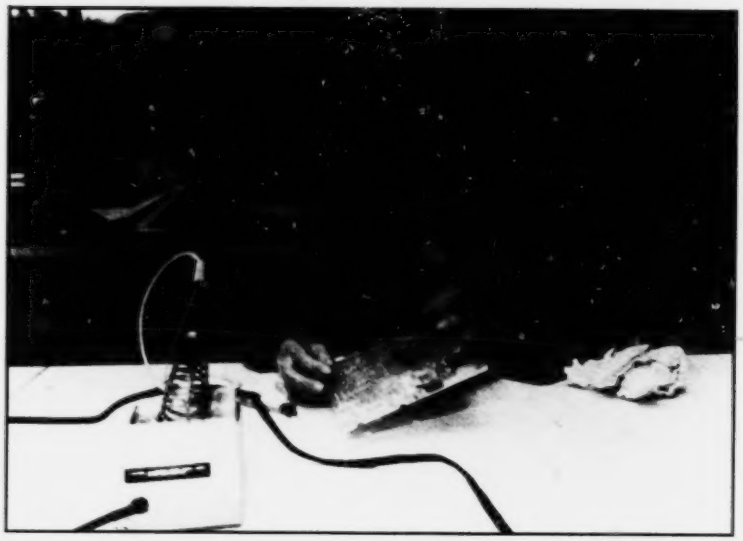


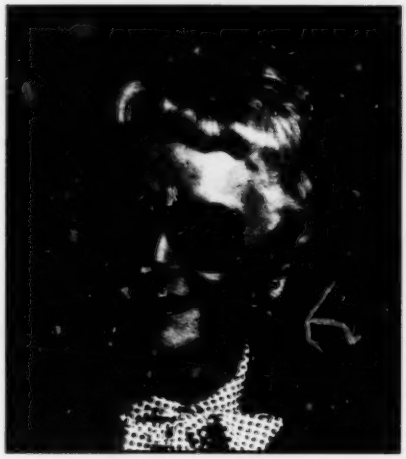
Training class at John Fluke Manufacturing Company, Everett. Students are soldering circuit boards for computers.

Circuit boards being dipped in a chemical solution at Precision Circuits in Lynnwood. The solution prepares the boards for a copper overlay.

Dear Reader:

On behalf of the Commission for Vocational Education, I am pleased to present the enclosed findings from a study of training needs as expressed by employers in Washington State. The Commission feels strongly that assessing employer needs for vocational education on a statewide basis is of primary importance to successful planning for vocational education. Accordingly, the Commission urges all those who are involved in planning for and concerned with the effective delivery of vocational education to carefully consider this report's findings and recommendations.

The Commission wishes to express its appreciation to the organizations and individuals who assisted in compiling this report and who are listed in the following acknowledgements section. In particular, the Commission thanks the hundreds of employers who gave of their time to respond to the survey questionnaire. It is indeed gratifying to know that Washington State employers recognize the importance of being active participants in the planning process for vocational education.



Christenia Alden

Sincerely,

Christenia L. Alden

Christenia L. Alden
Chair

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ACKNOWLEDGEMENTS . . .

The following employer needs report represents one study in a series of planning modules in support of the Commission for Vocational Education's (CVE) comprehensive planning process for vocational education. The employer needs study is part of Module III, "People Needs for Vocational Education."

This CVE-sponsored study was conducted by Dr. Carver Gayton, consultant and Manager of Educational Relations and Training for The Boeing Company, together with CVE staff and with the assistance of the Association of Washington Business, the Washington Roundtable, and a project advisory committee. Special thanks go to the consultant for his expertise and patience throughout this major survey research project, and to the advisory committee members for their many hours of planning and review, and their attendance at advisory meetings.

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CONTENTS . . .

	Page
List of Tables	1
Executive Summary	2
Introduction	5
Methodology	7
Findings	8
Workforce Characteristics	8
Training Needs of Business and Industry	12
Training Opportunities for Employees	19
Cooperative Relationships Between Business and Educational Institutions	20
Comparative Analysis	22
Conclusions and Recommendations	24
References	30
Appendix	31
Questionnaire	

LIST OF TABLES . . .

		Page
Table 1:	Educational Background of Employees Hired Over the Past Two Years	9
Table 2:	Perceptions on Whether Institutions are Preparing Students Well for Jobs and Careers	11
Table 3:	Competencies Desired by Employers of High School Graduates	13
Table 4:	Competencies Desired by Employers of Postsecondary (Community Colleges and Vocational-Technical Institutes) Trained People	14
Table 5:	Factors Which Led Employers Not to Use Community Colleges or VTIs for Specific Training	16
Table 6:	Training Areas Preferred to be Emphasized at Various Educational Levels	18
Table 7:	Types of Company-Based Training	19
Table 8:	Cooperative Relationships that Exist with Companies and Educational Institutions	21

EXECUTIVE SUMMARY . . .

A survey of employers was conducted during the summer of 1985 by the Washington State Commission for Vocational Education (CVE), in cooperation with the Association of Washington Business, the Washington Roundtable, and a project advisory committee. The purpose of the study was to assess the attitudes of employers toward vocational education within the state, to determine training needs of companies, to identify training opportunities with corporations and to have an understanding of the cooperative relationships that exist between business and educational institutions. The survey covered the views of employers concerning vocational education at both the secondary and postsecondary levels.

The questionnaire was mailed to 1,990 employers throughout the state with 702 (35 percent) being returned. Employer units were sampled by size, type of company and geographic area of the state.

Thirty percent (30 percent) of the companies returning the questionnaire represent the service industries, 23 percent manufacturing, 21 percent retail, 19 percent other, and 6 percent direct sales. Sixty-six (66) percent of the employers represent firms with less than 50 employees, 24 percent with 50-274 employees, 3 percent with 275-499 employees and 6 percent with over 500.

MAJOR FINDINGS:

- The largest proportion (39 percent) of the new employees hired by the responding companies over the past two years were high school graduates who had job-related experience.
- The majority of the respondents perceive the community colleges and vocational-technical institutes to be doing a very good job of preparing students for jobs and careers. However, employers are not as positive concerning public high schools. (It is important to emphasize that employers did not indicate in any of their responses that vocational education should be eliminated within high schools.)
- Employers are not by any means against the teaching of vocational or technical skills in high schools, but feel strongly (97 percent) that they should be taught within the context of employability, i.e., emphasizing basic skills, positive work habits and attitudes.

EXECUTIVE SUMMARY . . .

- Having a strong background in the basic skills, i.e., command of the English language, reasoning and problem-solving skills and basic math and science skills is regarded as very important for all high school graduates by over 90 percent of the employers.

- The competencies regarded as important for high school graduates are also perceived as important for individuals trained in the postsecondary vocational programs, with positive work habits and attitudes being the most important.

- One-third of the employers have utilized community colleges or public vocational-technical institutes to train their employees.

- Employers that have not utilized community colleges or vocational-technical institutes indicate the lack of relevancy of courses offered with respect to the needs of their companies as a primary reason.

- Employers believe that subject areas needing increased emphasis in high school and at the postsecondary level are math and English. Vocational education, according to the respondents, although important at the secondary and community college levels, should continue to be the primary emphasis at the vocational-technical institutes.

- Ninety-four percent of the employer respondents provide on-the-job training while only 13 percent provide training for the disabled, and an even lower percentage (12 percent) have training programs for the dislocated or unemployed worker.

- Almost 60 percent of the employer respondents indicate that they have been involved in a cooperative relationship with an educational institution, most of which relate to plant tours.

RECOMMENDATIONS:

- Vocational education should integrate the teaching of basic and employability skills with the teaching of specific occupational skills, particularly at the high school level.
- A strong core curriculum emphasizing the basics of English, reasoning and problem-solving skills, math and science should be the primary offerings for all secondary students whether bound for the work force or college.
- Community colleges and vocational-technical institutes should initiate or increase community relations and marketing campaigns to make vocational programs better known and more visible within their communities.
- Vocational program advisory committees need to be strengthened by encouraging greater participation on the part of the business community.
- Companies should create or revise their policies to allow more participation in vocational education programs.
- Partnerships among businesses, schools and colleges are encouraged.
- The business community should make greater efforts to meet the needs of dislocated (unemployed) and handicapped workers.

INTRODUCTION . . .

Merritt Long, Interim Executive Director
Commission for Vocational Education

"The importance of assessing employer perceptions of vocational education, together with determining employer needs, cannot be overstated. This report represents a major survey research effort designed to ascertain such perceptions and needs.

Our challenge now is to incorporate this report's findings into the state-level planning process for vocational education. Additionally, I believe that the report findings and recommendations will be of real significance to local-level planning as well."

(Left to right) Donald Barber and Linda Mackintosh, Association of Washington Business and Dr. John Knold, Commission for Vocational Education, discussing construction of the survey questionnaire.

The following report of findings for the CVE-administered "Survey of Employer Training Needs" was designed to address some of the assessments that states are charged to make according to the Cari Perkins Vocational Education Act.

In response to the directives of the Perkins Act, regarding vocational training needs, the survey addresses employer perspectives of the following:

- Career preparation programs by institutions
- Training needs of business and industry
- Training opportunities of employees within companies
- Cooperative relationships between business and educational institutions.

This CVE-sponsored study could not have been accomplished without the cooperation of Dr. Carver Gayton, Consultant and Manager of Educational Relations and Training for The Boeing Company; the CVE staff headed by Mr. Merritt Long, Interim Executive Director; Dr. John Knold of CVE's Planning and Research Division; the Advisory Committee; Dr. Richard Page, President of the Washington Roundtable; and Mr. Donald Barber, President, Association of Washington Business (AWB), and Ms. Linda Mackintosh, Executive Director of Business Week for the Association of Washington Business.

Dr. Richard Page,
President of the
Washington Roundtable

METHODOLOGY . . .

The CVE was assisted in this research project by a consultant from industry and in addition, an advisory committee was assembled which included representatives from the vocational education and business communities. The consultant, the advisory committee and CVE staff met periodically from spring through fall of 1985 for the purpose of determining the survey's direction, questionnaire construction, and interpretation of the findings.

Fifteen representatives from business and industry were interviewed to pilot test the questionnaire before the final instrument was mailed.

It was decided that a purely random sample of businesses would be a risky approach, given the probability of low response rates associated with similar survey research efforts in other states. Therefore, two Washington business groups with a stated interest in educational activities were selected for the mailing, i.e., the Association of Washington Business and the Washington Roundtable. Businesses with two or less employees were deleted from the AWB membership mailing list since the questionnaire items would be relatively irrelevant for small firms.

The number of usable questionnaires returned was 702, which represented 35 percent of the total mailed. The rather extensive length of the questionnaire may have worked against acquiring a larger response rate.

As in any survey of this type, certain caveats are in order. Although a great deal of time and effort went into revising the questionnaire to make it as clear as possible, a few of the questions could have been open to different interpretations. An example is questionnaire item I.F. (see Appendix) concerning the number of new hires employed by companies over the past two years. The question makes reference to "job-related experience." The question could be raised "Does this include on-the job experience, student internships or both?" One could say that additional questions should have been asked to attempt to be more clear. Certainly asking other questions may have been appropriate but the consultant, together with the advisory committee and others involved in designing the study, used their best judgment, taking into consideration the limited time available for most business people to participate in such surveys. Final decisions may have affected the clarity of a small number of questions and for this an apology is offered.

FINDINGS . . .

WORKFORCE CHARACTERISTICS:

Type of Company

Of the respondents, 23 percent identified themselves as being primarily manufacturing, 21 percent retail, 6 percent direct sales, 30 percent service and 19 percent marked the "other" box. Many responses in the "other" box indicated that the respondent represented a firm involved in two or more of the company types listed.

Size of Company

Of the respondents, the large majority (66 percent) represented firms under 50 employees in size, 24 percent between 50 and 274 employees, just 3 percent in the 275 to 499 range, and 6 percent with over 500 employees. It should also be noted that 43 of the 60 firms with over 500 employees (as identified from the Washington Roundtable and AWB mailing lists), returned their questionnaires.

Educational Background of New Employees

The total number of new employees hired by the respondents over the past two years was 43,759. The breakout of new employees by educational background and related experience is a wide array of averages. For example, the average number of new, full-time employees with only a high school diploma or certificate and having no job-related experience was about 17 percent of the total new hires. Clearly, the largest category of new hires was the high school diploma or certificate recipients with job-related experience (39 percent of all new hires). The results also indicate that having experience if one is a four-year graduate is less important than for the high school graduate (see Table 1).

TABLE 1

EDUCATIONAL BACKGROUND OF EMPLOYEES
HIRED OVER THE PAST TWO YEARS

	Without Job Related Experience	With Job Related Experience	Unknown
1. High School Diploma or Certificate	17%	39%	1%
2. Community College	4%	8%	.1%
3. Public Vocational-Technical Institute	3%	4%	.1%
4. Private Vocational School	1%	1%	.1%
5. Four-Year Degree	11%	12%	.1%

The primary force behind these figures is the hiring practices of large companies (over 500 full-time employees). Although they represent only six percent of the respondents, they also hired close to 34,000 employees over the past two years, a figure greater than all the other companies combined. Companies with less than 50 employees represented 66 percent of the respondents; however, they hired only 3,000 new hires over the past two years. The results indicate that smaller companies tend to hire high school graduates without job-related experience more readily than the larger companies. In fact, over 45 percent of the new hires for large companies, for the past two years, were high school graduates **with** job-related experience.

How Institutions are Preparing Students for Jobs and Careers

Sixty-six percent of the respondents believe that the community colleges are preparing students very well for jobs and careers (see Table 2).

According to Table 2, a large proportion of the respondents apparently do not have information on the programs offered by the VTIs, the skills centers or the private vocational schools as is indicated by the large number of responses in the "no opinion" column. Part of the reason for this finding is no doubt due to the small number of such institutions within the state.

A significant finding is that 57 percent of the respondents do not believe that public high schools are preparing students well for careers and jobs. This issue will be examined in more detail further in the report.

TABLE 2

PERCEPTIONS ON WHETHER INSTITUTIONS ARE PREPARING STUDENTS WELL FOR JOBS AND CAREERS

	Agree	No Opinion	Disagree
Community Colleges	66%	21%	13%
Vocational-Technical Institutes	63%	32%	6%
Private Vocational Schools	48%	48%	4%
High School Skills Centers	28%	59%	12%
Public High Schools	20%	23%	57%

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TRAINING NEEDS OF BUSINESS AND INDUSTRY:

Competency Areas for High School Graduates (See Table 3)

Employers strongly believe that basic skills and positive work attitudes are the fundamental competencies needed by high school graduates.

Although employers consider vocational education to be an important competency (71 percent), it is not regarded as a relatively high priority. Additionally, employers indicate that they have the greatest difficulty finding the above-mentioned competencies in high school graduates with vocational skills (refer to the last two columns of Item II.A. of the questionnaire—see Appendix). Such mixed responses could create a dilemma for secondary vocational educators and policymakers. An interpretation of these data is reflected under the "Conclusions and Recommendations" section, page 24.

Competency Areas for Postsecondary Trained Individuals (see Table 4)

Again, as is the case for secondary school graduates, positive work habits and attitudes are considered by employers to be the most important competencies for individuals trained by community colleges and vocational-technical programs. The differences in ratings for English, reasoning and problem-solving, reading and writing, and oral communication skills are very slight, followed closely by interpersonal skills, math and science, and technical and vocational competencies, with these three categories very close in their ratings.

It is interesting to note that there is approximately the same rank ordering between Tables 3 and 4, but that the items within Table 4 are more closely clustered. In other words, employers are able to be more discriminating in prioritizing their needs when it comes to the hiring of high school graduates as opposed to the hiring of postsecondary graduates.

It is also interesting to note that there is no difference between the expressed need on average for vocational/technical skills between high school and postsecondary hires, which is 71 percent agreement for both levels of education.

TABLE 3

COMPETENCIES DESIRED BY EMPLOYERS OF HIGH SCHOOL GRADUATES

	Agree	No Opinion	Disagree
Positive Work Habits and Attitudes	97%	1%	2%
Command of English Language	97%	2%	1%
Reasoning and Problem-Solving Skills	96%	4%	1%
Reading and Writing Skills	95%	3%	2%
Oral Communication	94%	5%	1%
Math and Science	90%	7%	2%
Interpersonal Skills	87%	11%	1%
Technical or Vocational Skills	71%	19%	11%
Social and Economic Studies	53%	33%	13%

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TABLE 4

COMPETENCIES DESIRED BY
EMPLOYERS OF POSTSECONDARY
(COMMUNITY COLLEGES AND VOCATIONAL-TECHNICAL INSTITUTES)
TRAINED PEOPLE

	Agree	No Opinion	Disagree
Positive Work Habits and Attitudes	81%	13%	5%
Command of English Language	79%	14%	7%
Reasoning and Problem-Solving Skills	79%	14%	7%
Reading and Writing Skills	79%	15%	6%
Oral Communication	77%	18%	5%
Math and Science	75%	17%	8%
Interpersonal Skills	74%	19%	6%
Technical or Vocational Skills	71%	21%	8%
Social and Economic Studies	50%	35%	14%

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FINDINGS . . .

Use of Community Colleges or Vocational-Technical Institutes for Customized Training and Related Satisfaction

One-third of the employers responded that they had used a community college or public VTI to assist them in training their employees or in providing specific customized education. Larger companies tend to utilize such institutions more often, e.g., 58 percent of companies with 500 or more employees have done so. Of those companies that have used community colleges and vocational-technical institutions, their reactions were generally favorable, i.e., 57 percent agreed that community colleges were training their employees in an effective manner while 44 percent agreed that VTI's were doing an effective job. It should be noted that some respondents who had not utilized VTI's and community colleges for customized education answered as if they had, which may have worked against the VTI's since 49 percent had no opinion regarding their programs. This lack of opinion would be a logical response since VTI's are located only in the northwestern part of the state.

Factors Which Led to the Decision not to Use a Community College or Vocational-Technical Institute

The primary factor which led employers not to use VTI's or community colleges was the lack of course relevancy with respect to company needs (see Table 5).

TABLE 5

FACTORS WHICH LED EMPLOYERS NOT TO USE COMMUNITY COLLEGES OR VTI'S FOR SPECIFIC TRAINING

	Public Vocational-Technical Institute	Community College
Cost of education and training	6%	7%
Timing for enrollment in courses (convenience of quarter or semester systems)	6%	8%
Relevancy of the courses offered to the needs of the company	28%	29%
Convenience of location for instruction	7%	6%
Willingness to modify curriculum to meet specific needs	4%	5%
Quality of instruction	4%	4%
Quality of laboratory or other equipment used and its availability	2%	2%
Responsiveness of the administration to meeting specialized needs	3%	4%
Company training requirement cancelled	2%	1%

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FINDINGS . . .

Subject Areas Employers Would Like Emphasized

Clearly math and English are favored areas for emphasis, particularly at the high school level and decreasingly so at VTI's. Vocational education is favored roughly the same across institutions, while it is regarded as most important at VTI's. It would appear that employers want VTI's to concentrate on the teaching of vocational skills, paying less attention to math and science than other institutions and virtually no attention to social science, foreign language or the arts at VTI's. Computer programming is perceived to be more important training at the community college level in comparison with the others (see Table 6).

Increased Skill Requirements Due to Technological Change

Sixty-four percent of the employers agreed that skill requirements had increased for entry-level jobs due to recent technological changes.

Primary Source of Information

The major source of information about vocational education programs, as indicated by the respondents, is through direct mail. Television and radio are virtually not recognized as sources of information.

TABLE 6

TRAINING AREAS PREFERRED TO BE EMPHASIZED AT VARIOUS EDUCATIONAL LEVELS

	High School Including Skills Centers	Community Colleges	VTIs
Math	75%	50%	38%
English	78%	53%	36%
Computer Programming	25%	42%	31%
Social Science	22%	13%	4%
Foreign Language	13%	7%	3%
Fine, Visual or Performing Arts	9%	11%	4%
Vocational Skills	44%	42%	48%

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FINDINGS . . .

TRAINING OPPORTUNITIES FOR EMPLOYEES:

Company-Based Training (see Table 7)

Ninety-four percent of the employers provide on-the-job training and half provide some sort of off-hour training. Very little training takes place for the disabled or dislocated worker. Interestingly, 60 percent of the employer respondents indicated that they provide tuition reimbursement. This could take a variety of forms including paid time off to attend training programs. Few employers, with the exception of those who have a large number of employees, have training for the disabled or for dislocated (unemployed) workers.

Factors Relevant to the Decision not to Offer Company-Based Training

The one dominate response (33 percent) with respect to the decision not to offer company-based training was "relevancy to company needs" rather than the cost of the program.

TABLE 7

TYPES OF COMPANY-BASED TRAINING

	Yes	No
On-the-job training	94%	6%
Off-hour training	50%	50%
Training for disabled	13%	87%
Training for dislocated (unemployed) workers	12%	88%
Tuition reimbursement/subsidy	60%	40%

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COOPERATIVE RELATIONSHIPS BETWEEN BUSINESS AND EDUCATIONAL INSTITUTIONS:

Types of Relationships

The more frequent forms of cooperative relations were cited in the following descending order: plant tours, summer jobs for students, internships and cooperate work programs, and exchanges for teachers and employers (see Table 8).

Of the employers not involved in business/education relationships (41 percent), 18 percent indicated that they would like to be involved and 82 percent indicated they would **not** like to be involved. This response probably represents the concerns of small businesses in that their available time is usually very limited. Larger companies tend to be more involved in cooperative relationships with educational institutions.

Of the 665 employers responding to the question of their involvement with advisory committees, 36 percent said they participated on them.

TABLE 8

COOPERATIVE RELATIONSHIPS THAT EXIST WITH [illegible] AND EDUCATIONAL INSTITUTIONS

	High School (Including) Skills Centers	Community Colleges	VTIs
Cooperative training/work program	13%	9%	7%
Internships for students	10%	8%	4%
Internships for teachers	1%	1%	0
Adopt-a-school or partnership program	2%	0	0
[illegible]	[illegible]	[illegible]	[illegible]
Summer job programs for students	17%	12%	4%
Summer job programs for teachers	2%	1%	1%
Exchanges of teachers and employees	11%	1%	1%
Plant tours	21%	16%	13%

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COMPARATIVE ANALYSIS . . .

Cross-tabulations according to employer characteristics revealed that the responses provided by the total number of employers were generally consistent when comparing the geographic locations of companies, size, or type of industry. However, there were a few instances when companies with certain characteristics were at variance with the total employer responses. The following represent the significant differences:

- Larger companies tend to hire high school graduates with work experience whereas the smaller employer will take a chance with the high school graduate with little or no work experience. It may well be that salary consideration is a factor in such decisions for the smaller companies since a person with less experience would demand a smaller salary. It should also be noted that the smaller companies tend to be more critical of the skill levels of high school graduates than larger businesses.

- Smaller companies, by comparison tend not to have training relationships with postsecondary vocational education programs. For example, of those companies with 50 or fewer employees, 75 percent had **never** utilized a community college or a vocational-technical institute for training of their employees.

- Fifty-eight percent of those employers with 50 or more employees have utilized community college or vocational-technical institute training programs for their employees, compared to 33 percent of employers as a whole. Only 25 percent of the employers with less than 50 employees have participated in the programs offered. Relevancy of the programs offered at postsecondary schools was cited as the primary reason why companies did not utilize vocational-technical institutes or community colleges for their training needs.

- Employers from western Washington are generally more favorable in their assessment of how vocational-technical institutes are preparing students for jobs and careers than those from eastern Washington. This response is no doubt a result of the fact that the vocational-technical institutes are all in western Washington.

COMPARATIVE ANALYSIS . . .

- Larger companies tend to have a less difficult time finding high school graduates with "specific technical or vocational skills" than employers as a whole (81 percent versus 55 percent respectively). This may be a result of sophisticated recruitment programs and more selective hiring on the part of large companies.

- Larger companies tend to be more pleased with the way in which training programs are conducted at postsecondary schools than employers as a whole.

- Larger companies of 500 or more employees which are not involved in advisory committees are more willing to become involved with such committees (78 percent) than smaller companies of 50 or fewer employees (45 percent willing, with 56 percent either having no opinion or not wanting to participate).

- Seventy-six percent of those employers in the service industries indicated that skill requirements have increased as a result of technological changes, whereas only 53 percent of those employers who regard themselves as being in the manufacturing industry responded in the same way. It is assumed that the impact of the computer has had a more significant affect upon the service industry.

CONCLUSIONS AND RECOMMENDATIONS . . .

Employers have indicated a general satisfaction with the way in which community colleges and vocational-technical institutes are preparing people for careers and jobs. They do not have the same perspective concerning high school programs in the state. This may relate to the apparent ambiguity as to the role high schools should have in preparing students for jobs in the work place.

Most employers want high schools to emphasize a core curriculum of basic subjects (i.e., math, English, reading, and writing) to prepare students for jobs. Additionally, the overwhelming majority of employers believe that positive work habits and attitudes are imperative competencies for a student to be hired. Specific technical or vocational skills, while important to most company officials, are not considered to be as important as the above-mentioned factors.

The same emphasis on core competencies is important, according to the employers, for individuals participating in postsecondary programs.

The opinion of Washington State employers regarding core competencies is supported by studies made by the Committee on Economic Development (CED), the National Commission on Secondary Education, the Washington State Temporary Committee on Educational Policies, Structure and Management as well as the Washington Roundtable, among others. One way in which the business community can do its part in dealing with the problem of basic skills and developing good work habits and attitudes is to join with groups like the Washington Roundtable to encourage the state legislature to create comprehensive early childhood education programs specifically directed toward economically disadvantaged children. Research and studies such as the CED report have shown that early childhood education programs are cost-effective in the long run in terms of tax savings for businesses and the public in general. Additionally, a more competent work force will be created for the future if more early childhood programs are created. It is important to note that two prestigious committees, the Washington Roundtable and the National Committee for Economic Development, have early childhood education as their number-one priority. Both organizations have as their primary focus the long-range interests and needs of business.

Although companies have a favorable perception of postsecondary education, it is apparent by their responses that they are not thoroughly aware of available offerings and have not made much effort to find out. Postsecondary vocational institutions have an opportunity to do a more effective job in letting businesses know what they can provide. Most companies are aware of postsecondary vocational activities only through mailings. Since companies believe that most vocational training should take place at the vocational training institutes and community colleges, such institutions are positioned well to take advantage of that perception by making more effort to communicate with businesses. A majority of the companies expressed some need to provide vocational training for their employees and many assume that the esoteric nature of their work requires on-the-job training rather than utilization of vocational programs. As taxpayers supporting public vocational programs, companies should take more advantage of opportunities which could enhance their business by investigating what vocational programs have to offer. In many cases this could be a very cost-effective decision. Large companies in particular have certainly benefited by utilizing postsecondary programs.

CONCLUSIONS AND RECOMMENDATIONS . . .

Based upon the analysis of the findings from the responses to the questionnaire, the following recommendations are made:

VOCATIONAL EDUCATION SHOULD INTEGRATE THE TEACHING OF BASIC AND EMPLOYABILITY SKILLS WITH THE TEACHING OF SPECIFIC OCCUPATIONAL SKILLS, PARTICULARLY AT THE HIGH SCHOOL LEVEL

Although the respondents have a generally positive view of vocational education within the state, there was apparent ambiguity with regard to programs within the public high schools. Almost 60 percent indicated that public high schools were not preparing students well for jobs and careers, yet on a comparative basis employers ranked "specific technical or vocational skills" eighth among nine competencies that they regarded as important for high school graduates. Their reaction may be directed toward high school education generally rather than vocational programs specifically.

The study "High Schools and the Changing Workplace: The Employer's View," conducted by the National Academy of Science, the National Academy of Engineering and the Institute of Medicine, is in agreement with the view of the respondents from this CVE survey. "The Employer View" states, "For those intending to enter the work force directly after completing high school, additional training in specific vocational skills will increase employability and is naturally desirable. But no other skills, however useful or worthwhile can substitute for the core competencies." In other words, both studies point out that the core competencies deserve higher priority than specific technical or vocational skills although such skills are "naturally desirable." Efforts must be made to ensure that there is a known and direct focus of high school vocational education. It is apparent that the current direction is not clear from the perspective of the business community.

It is important to emphasize that employers did not indicate in any of their responses that vocational education should be eliminated within high schools. It is clear, however, that vocational programs should be implemented in a way that emphasize core competencies, positive work habits and attitudes first and foremost before attempting to develop skilled technicians.

The Washington Roundtable places a different slant on the need for emphasizing the core competencies in that the two-year mathematics requirement for high school graduation should provide two alternative types of coursework to fulfill this requirement, i.e., traditional academic courses for college preparatory students and practical courses in applied algebra or geometry. The "applied courses" referred to by the Roundtable relate primarily to vocational classes.

A STRONG CORE CURRICULUM EMPHASIZING THE BASICS OF ENGLISH, REASONING AND PROBLEM-SOLVING SKILLS, MATH AND SCIENCE SHOULD BE THE PRIMARY OFFERINGS FOR ALL SECONDARY STUDENTS WHETHER BOUND FOR THE WORK FORCE OR COLLEGE.

Employers were clear on this issue. Most of the volunteered written statements of employers stated the need for more emphasis on the "basics." A typical response from a small employer points out "We do a lot of on-the-job training and the only thing we really require is that employees can understand English or communicate with people." Another employer states "My need is to hire people who have the ability to learn and who can reason. Reading and comprehension are very important. I believe that high schools should concentrate on basics."

The emphasis on "basic skills" is also the primary concern of employers regarding postsecondary vocational education, however, it is not as pronounced as it is in relation to high school education.

A distinction should be made here between "employability" and "vocationalism." Employability encompasses the competency areas of command of the English language, reasoning and problem-solving skills, basic math, etc. Additionally, employability relates to what the respondents regard as the most important competency: "positive work habits and attitudes." The assumption is that without employability skills, having a specific technical or vocational skill will be of minimal value within the work place.

CONCLUSIONS AND RECOMMENDATIONS . . .

The less than positive reaction of the respondents to the way they perceive high schools preparing students for jobs and careers may be a function of the dilemma secondary education programs have between the employability and vocationalism concepts. Employers are not by any means against the teaching of vocational or technical skills in high schools, but feel they should be taught within the context of employability, i.e., emphasizing basic skills and positive work habits and attitudes.

COMMUNITY COLLEGES, VOCATIONAL-TECHNICAL INSTITUTES AND SECONDARY VOCATIONAL PROGRAMS SHOULD INCREASE COMMUNITY RELATIONS AND MARKETING COMPAIGNS TO MAKE VOCATIONAL PROGRAMS BETTER KNOWN AND VISIBLE WITHIN THEIR COMMUNIITES

The results of the survey indicate clearly that businesses, particularly small businesses, are not aware of the program offerings of postsecondary vocational institutes, or of the abilities of the institutions to provide training that meets their specific needs. The primary reason indicated as to why community colleges or vocational institutes were not utilized by business is the perception that courses were not relevant to their needs. Most companies receive information about vocational programs through direct mail. As a result, it seems that few are aware of the capacity of postsecondary institutions to tailor programs to meet the needs of industry. It is ironic to note that large companies, proportionally, utilize community colleges and vocational-technical institutions to a greater degree than small businesses even though the capacity of large companies to train their employees is greater than small companies. Larger companies tend to have more knowledge of the availability of programs and capabilities of the vocational schools in their respective communities. Small businesses should be primary targets of marketing campaigns that community colleges and vocational institutes initiate.

VOCATIONAL PROGRAM ADVISORY COMMITTEES NEED TO BE STRENGTHENED BY ENCOURAGING GREATER PARTICIPATION ON THE PART OF THE BUSINESS COMMUNITY

Although 36 percent of 665 employers indicated that they participated in advisory committees for vocational programs, nearly 50 percent of those not involved were willing to participate if contacted. This should be encouraging to the vocational education community in that there is a large proportion of business people who are willing to assist educational institutions with their programs. This is another indication of the need for community colleges and vocational-technical institutes to publicize their programs in more innovative ways in order to obtain more involvement from the community.

Additionally, it is appropriate to mention here the Temporary Committee on Educational Policies, Structure and Management recommendation that advisory committees be revised and strengthened to require a minimum of three meetings a year, active consultation with representatives of business, labor and industry and that a statewide communication network for vocational advisory committees be established in the office of the State Council on Vocational Education.

COMPANIES SHOULD CREATE OR REVISE POLICIES TO ALLOW MORE PARTICIPATION IN VOCATIONAL EDUCATION PROGRAMS

Although there have been indications of more interest within the business community to work in cooperation with educational institutions to assist in areas of mutual interest, there is much more that can be done. Within the last few years in particular, several large corporations have revised their policies to allow employees to participate as volunteers on boards, committees and as instructors at education institutions within their communities. Others should follow the example of such businesses. Businesses could offer their expertise in areas such as program management and marketing in an effort to enhance vocational education programs. Providing assistance to vocational programs by the business community should be done within the context of the "partnering" concept, since both entities will benefit from the results of such activities. Another policy consideration for business communities in allowing for greater participation in vocational programs would be to provide contributions of equipment and funds to enhance programmatic offerings.

CONCLUSIONS AND RECOMMENDATIONS . . .

PARTNERSHIPS AMONG BUSINESSES, SCHOOLS AND COLLEGES SHOULD BE ENCOURAGED

The partnership concept whereby an individual school and business join together to participate in programs of mutual interest has been in existence for several years. Most of such efforts are on the secondary school level and the results have varied from good to excellent. A fundamental rationale for developing partnerships is to provide the opportunity for young people to find out about jobs and careers on a first-hand basis. The opportunities are virtually unlimited if the partnerships operate in a serious and committed fashion. A statewide effort to encourage partnerships would do a great deal toward alleviating the misunderstandings and misconceptions regarding vocational education that were evident from the survey results.

THE BUSINESS COMMUNITY SHOULD MAKE A GREATER EFFORT TO MEET THE NEEDS OF DISLOCATED (UNEMPLOYED) AND HANDICAPPED WORKERS

Of the types of training that business indicated they provided, the least amount of training is provided for the dislocated and the handicapped. This result was particularly disconcerting when the figures indicate that of the large corporations (500 or more employees) approximately 60 percent do not provide for the dislocated worker. Such training need not be provided for altruistic reasons, although a case can be made for participation on that level. Training of the handicapped and the dislocated worker can be done in the interest of the company. Direct benefits will accrue to companies by having a more skilled and effective worker, particularly with regard to the disabled worker, and by having an individual who will be less likely to go on welfare in the case of the dislocated worker. Cooperative efforts with the community colleges and the vocational-technical institutes can assist businesses in providing training for disabled and dislocated workers.

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APPENDIX . . . QUESTIONNAIRE . . .

Survey of Employer Training Needs
within the State of Washington for the
Commission for Vocational Education
(all responses will be confidential)

1. WORKFORCE CHARACTERISTICS

A. Company Name_____ (optional)

B. Contact Name_____ (optional)

Title_____ (optional)

C. County_____

D. Please check the industry which best describes what your company does:

23% ☐ Manufacturing
21% ☐ Retail
6% ☐ Direct Sales
30% ☐ Service
19% ☐ Other *(please specify)* _____

E. Number of full-time employees within the state:

66% ☐ Less than 50
24% ☐ 50-274
3% ☐ 275-499
6% ☐ Over 500

F. In your judgment, what is the approximate number of full-time new hires over the past two years who are:

	Without Job-Related Experience	With Job-Related Experience	Unknown
1. High School Diploma or Certificate	17% N = 339	39% N = 339	1% N = 39
2. Community College Trained	4% N = 137	8% N = 191	.1% N = 5
3. Public Vocational-Technical School Trained	3% N = 85	4% N = 117	.1% N = 7
4. Private Vocational School Trained	1% N = 45	1% N = 56	.1% N = 3
5. Four-year degree and beyond	11% N = 166	12% N = 251	.1% N = 7
6. Others *(please specify if known)*			
_____	_____	_____	_____

What is the total number of new full-time hires over the past two years 43,759 ? N = 647

G. Please indicate the degree to which you agree or disagree with this statement: *"The following type of institution is preparing students for jobs and careers very well."*

N = 666	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. Community Colleges AVE = 3.6	5 8%	4 58% X	3 21%	2 12%	1 1%
2. Public Vocational-Technical Institutes AVE = 3.7	5 11%	4 52% X	3 32%	2 5%	1 1%
3. Public High Schools AVE = 2.6	5 1%	4 19%	3 23% X	2 49%	1 8%
4. Public High School Skills Centers AVE = 3.2	5 2%	4 26% X	3 59%	2 11%	1 1%
5. Private Vocational Schools AVE = 3.5	5 11%	4 37% X	3 48%	2 4%	1 0%

II. TRAINING NEEDS OF BUSINESS AND INDUSTRY

A. Please indicate the degree to which you agree or disagree with this statement: *"It is very important for my company to hire high school graduates with the following competencies."*

N = 665	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	My company is able to find high school graduates with this competency: Yes	No
1. Command of the English language AVE = 4.5	5 63% X	4 34%	3 2%	2 1%	1 0%	☐ 73%	☐ 27%
2. Reasoning and problem-solving skills AVE = 4.5	5 58% X	4 38%	3 4%	2 1%	1 0%	☐ 64%	☐ 36%
3. Reading and writing skills AVE = 4.5	5 62% X	4 33%	3 3%	2 2%	1 0%	☐ 63%	☐ 37%
4. Basic math and science skills AVE = 4.3	5 45% X	4 45%	3 7%	2 2%	1 0%	☐ 70%	☐ 30%
5. Social and economic studies AVE = 3.5	5 13%	4 40% X	3 33%	2 11%	1 2%	☐ 70%	☐ 30%
6. Positive work habits and attitudes AVE = 4.7	5 81% X	4 16%	3 1%	2 1%	1 1%	☐ 63%	☐ 37%
7. Interpersonal skills AVE = 4.3	5 48% X	4 39%	3 11%	2 1%	1 0%	☐ 72%	☐ 28%
8. Oral communication AVE = 4.4	5 56% X	4 38%	3 5%	2 1%	1 0%	☐ 74%	☐ 26%
9. Specific technical or vocational skills AVE = 3.8	5 26%	4 45% X	3 19%	2 10%	1 1%	☐ 55%	☐ 45%

QUESTIONNAIRE . . .

B. Please indicate the degree to which you agree or disagree with this statement: *"It is very important for my company to hire people trained from* ***postsecondary*** *vocational programs—i.e., community colleges and vocational-technical institutes—with the following competencies."*

N = 612

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	My company is able to find vocational education postsecondary graduates with this competency: Yes	No
1. Command of the English language AVE = 4.2	5 51%	X 4 28%	3 14%	2 6%	1 1%	☐ 81%	☐ 19%
2. Reasoning and problem-solving skills AVE = 4.2	5 49%	X 4 30%	3 14%	2 6%	1 1%	☐ 75%	☐ 25%
3. Reading and writing skills AVE = 4.2	5 51%	X 4 27%	3 15%	2 5%	1 1%	☐ 74%	☐ 26%
4. Basic math and science skills AVE = 4.0	5 41%	X 4 35%	3 17%	2 5%	1 1%	☐ 80%	☐ 20%
5. Social and economic studies AVE = 3.5	5 16%	4 34% X	3 35%	2 12%	1 2%	☐ 77%	☐ 23%
6. Positive work habits and attitudes AVE = 4.3	5 65% X	4 16%	3 13%	2 4%	1 1%	☐ 75%	☐ 25%
7. Interpersonal skills AVE = 4.0	5 43%	X 4 31%	3 19%	2 5%	1 1%	☐ 79%	☐ 21%
8. Oral communication AVE = 4.2	5 50%	X 4 28%	3 15%	2 5%	1 1%	☐ 79%	☐ 21%
9. Specific technical or vocational skills AVE = 4.0	5 38%	X 4 33%	3 21%	2 7%	1 1%	☐ 80%	☐ 20%

C. Has your company ever used a community college or public vocational-technical institute to assist you in training your employees or in providing specific customized education?

N = 684

☐ Yes 33% ☐ No 67%

If yes, please indicate the degree to which you agree or disagree with this statement: *"The following institutions have been training my company's employees in a very effective manner."*

N = 294

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. Community Colleges N = 294 AVE = 3.6	5 17%	4 40% X	3 33%	2 8%	1 2%
2. Public Vocational-Technical Institutes N = 280 AVE = 3.5	5 13%	4 31% X	3 49%	2 6%	1 1%

D. If you have decided **not to use** a community college or public vocational-technical institute for your specific training and education needs, please check the following factors which impacted your decision.

	Public Vocational-Technical Institute	Community College
1. Cost of education or training	6% N = 44	7% N = 46
2. Timing for enrollment in courses (convenience of quarter or semester systems)	6% N = 45	8% N = 53
3. Relevancy of the courses offered to the needs of the company	28% N = 194	29% N = 207
4. Convenience of location for instruction	7% N = 48	6% N = 42
5. Willingness to modify curriculum to meet specific needs	4% N = 25	5% N = 33
6. Quality of instruction	4% N = 30	4% N = 28
7. Quality of laboratory or other equipment used and its availability	2% N = 13	2% N = 15
8. Responsiveness of the administration to meeting specialized needs	3% N = 20	4% N = 31
9. Company training requirement cancelled	2% N = 12	1% N = 6

E. Which of the following educational subjects or training areas would you **most** prefer to see emphasized at each of the designated educational levels to better prepare employees for your type of business?

Check as many subject areas as appropriate.

	High School (including Skills Centers)	Community College	Vocational-Technical Institutes
1. Math	75% — 528	50% — 353	38% — 265
2. English	78% — 546	53% — 370	36% — 254
3. Computer Programming	25% — 178	42% — 297	31% — 217
4. Social Science	22% — 153	13% — 91	4% — 29
5. Foreign Language	13% — 89	11% — 94	2% — 14
6. Fine, Visual or Performing Arts	9% — 62	11% — 95	4% — 28
7. Vocational Skills	44% — 308	42% — 296	48% — 340
8. Other (please specify)			
_____	_____	_____	_____

F. Please indicate the degree to which you agree or disagree with this statement:

N = 676

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
"Skill requirements for most entry-level jobs for my business have increased as a result of recent technological changes." AVE = 3.6	5 24%	X 4 40%	3 13%	2 20%	1 3%

G. My company's **primary** source of information about vocational program offerings is: *(check one source for each institution).*

	N = 351 Public Vocational-Technical Institute	N = 355 Community College
1. Local Newspaper	14%	15%
2. Direct Mail	42%	52%
3. Direct Contact	15%	15%
4. Word-of-Mouth	23%	15%
5. Television	3%	1%
6. Radio	1%	0%
7. Other (please specify) _____	2%	3%

III. TRAINING OPPORTUNITIES FOR EMPLOYEES

A. Does your company provide training for employees in the following areas?

	Yes	No
1. On-the-job training N = 686	☐ 94%	☐ 6%
2. Off-hour training N = 577	☐ 50%	☐ 50%
3. Training for disabled N = 495	☐ 13%	☐ 87%
4. Training for dislocated (unemployed) workers N = 503	☐ 12%	☐ 88%
5. Tuition reimbursement/subsidy N = 586	☐ 60%	☐ 40%

B. If your company does not offer training in any of the above areas, please check the following factors which are relevant to your decision.

1. 9%, N = 66 Cost of the program
2. 33%, N = 234 Relevancy to company needs
3. 10%, N = 68 Expectation that local educational institutions would provide the training
4. _____ Other (please specify)_____

IV. COOPERATIVE RELATIONSHIPS WITH BUSINESSES AND EDUCATIONAL INSTITUTIONS

A. What cooperative relationships exist between your company and the educational institutions listed below? Check the appropriate institution:

N = 412

	High School (including Skills Centers)	Community College	Vocational-Technical Institutes
1. Cooperative training/work programs	13%	9%	7%
2. Internships for students	10%	8%	4%
3. Internships for teachers	1%	1%	0%
4. Adopt-a-school or partnership programs	2%	0%	0%
5. Contractual arrangements with institutions for classes	1%	3%	2%
6. Summer job programs for students	17%	12%	4%
7. Summer job programs for teachers	2%	1%	1%
8. Exchanges of teachers and employees	11%	1%	1%
9. Plant tours	21%	16%	13%
10. Other (please specify) _____			
		(8%)	(34%)
N = 289 or 41%, of which		18%	82%

My company is not involved in one or more of the above activities, but would like to be, ☐ Yes ☐ No.
If yes, please specify by item number_____

1. = N of 9; 2. = N of 12; 3. = N of 1; 4. = N of 1; 5. = N of 0; 6. = N of 3; 7. = N of 0; 8. = N of 1; 9. = N of 5; 10. = N of 1.

B. High schools, community colleges and vocational-technical institutes often rely upon volunteer advisory committees for guidance in vocational training areas. Does your company participate in such programs?

N = 665

☐ Yes	☐ No
36%	64%

C. If your answer to the above question is "No," please indicate the degree to which you agree or disagree with the following statement.

N = 447

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
"My company would be willing to participate in voluntary advisory committees for vocational training programs, if asked." AVE = 3.22	^{5}11%	^{4}37%	X ^{3}31%	^{2}16%	^{1}6%

V. **PLEASE LIST ANY OCCUPATIONAL AREAS FOR WHICH YOUR COMPANY NEEDS VOCATIONALLY TRAINED PERSONNEL THAT ARE DIFFICULT FOR YOU TO FIND** *(list in priority)*

1. _____
2. _____
3. _____
4. _____
5. _____

VI. **COMMENTS**

If appropriate, indicate the question to which the comment applies:

_____
_____
_____
_____
_____
_____
_____
_____
_____

NOTES . . .

NOTES . . .

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Published by the Washington
State Commission for
Vocational Education

Merritt D. Long, Interim Executive Director

Developed by the
Planning and Research Division
Walter Wong, Acting Administrator

Editor: John A. Knold, Ph.D.
Designer: Barbara Glass

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